

# Hydrogen roadmap to 2050

nationalgrid

**BUILDING THE EVIDENCE BASE**

**2020**

- 01 Programme of work for hydrogen informed
- 02 Government Ten Point Plan and Energy White Paper

**2021**

- 03 Key Government strategies published
- 04 Policy influencing development
- 05 FutureGrid programme begins

**2022**

- 06 Hydrogen and CCUS business models finalised
- 07 Continued strategic stakeholder engagement

**ENABLING THE TRANSITION**

**2024**

- 12 Trials prove ability to deblend
- 13 Upskilling the workforce

**2023**

- 08 Increased hydrogen production
- 09 Hydrogen neighbourhood trials
- 10 20% blend testing complete
- 11 Online transmission trials begin

**2025**

- 14 1GW of hydrogen production capacity
- 15 GS(M)R updated and Hydrogen blends injected into NTS
- 16 First hydrogen village established
- 17 Hydrogen-ready boilers mandated

**2026**

- 18 Two low-carbon clusters are operational with CCUS
- 19 NTS Conversion Plan finalised

**2027**

- 20 Project Union hydrogen transmission backbone begins

**2029**

- 21 Third cluster operational

**GROWING THE HYDROGEN NETWORK**

**2038**

- 33 Distribution networks move towards national coverage
- 34 NTS moves towards national coverage

**2035**

- 32 NTS able to support imports and exports of hydrogen at interconnectors

**2032**

- 30 Green hydrogen becomes cost competitive with blue hydrogen
- 31 5th low-carbon cluster operational and joins backbone

**2031**

- 27 Hydrogen power generation
- 28 4th cluster joins the backbone
- 29 Distribution networks continue conversion to hydrogen

**2030**

- 22 40GW of offshore wind
- 23 5GW hydrogen production capacity
- 24 Scotland GHG emissions reduced by 75%
- 26 First hydrogen town
- Four low-carbon clusters operational

**REACHING NET ZERO**

**2040**

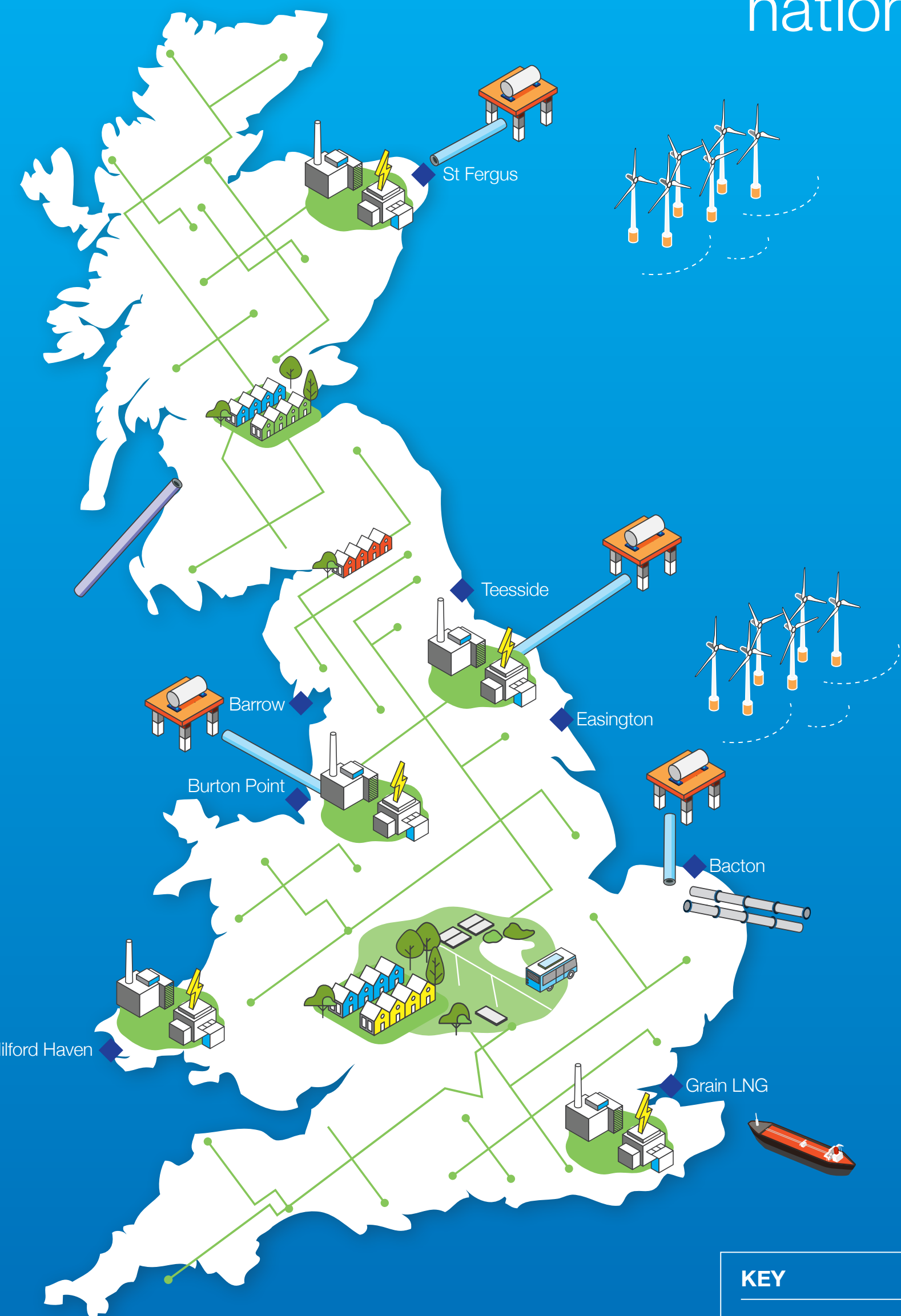
- 35 Scotland GHG emissions reduced by 90%

**2045**

- 36 Scotland achieves Net Zero
- 37 National Hydrogen Transmission Network

**2050**

- 38 UK achieves Net Zero



**KEY**

- Government milestones
- ◆ Industry milestones

Dates are estimated and subject to change.  
Illustrations shown on map are not indicative of actual geographical location.

**Net Zero**